

Military Health Systems Standard IM/IT Work Breakdown Structure Dictionary

(Excerpted from ATTACHMENT B to "DoD Automated Information System (AIS) Economic Analysis (EA) Guide", Cost Element Structure Definitions, Level 4)

Cost Element Structure

This Cost Element Structure (CES) provides a standard vocabulary for the identification and classification of cost elements to be used with cost analyses which will facilitate program review, reduce redundant staff actions and provide the framework for the development of specific program cost estimates. Any CES, to be useful, must be designed to answer specific questions for a manager, be applicable to many requirements, such as program reviews and budget submissions, be applicable at program inception through disposal and include all costs which will be incurred by the Government in designing, developing and operating the system through out its life cycle. The cost element structure is to be used for all AISs undergoing DoD review. It may be augmented to meet individual program requirements when greater levels of details are necessary. All of the cost elements indicated in this enclosure must be included in LCC estimates submitted to OD (PA&E). Do not double count costs that could be included in more than one cost element. This is particularly important for logistics support costs which could be included in either the investment or O&S areas. Some of the cost elements in the CES may not be applicable to every AIS program.

The CES is hierarchical in nature to accommodate programs in early development, when little detailed data is available, through deployment, when detailed data is available at lower levels of indenture. All sub-elements of each indenture level are summed to the next higher level of the cost element, and therefore, as more details become known of the system the greater detail can be added without reaccomplishing the entire CES.

The Cost Element Structure is designed to provide standardization and comparability between AISs and to facilitate the validation process. If an actual expenditure or anticipated estimated cost does not fit any of the definitions provided select a cost element that most closely defines the actual cost element and provide a changed definition of that cost element in the backup documentation. Actual costs which fit the definitions provided need not be redefined in the documentation.

COST ELEMENT STRUCTURE FOR AIS ECONOMIC ANALYSIS

1.0 Investment

This major element includes all costs to the government to implement, fully, at all required operational sites, the automated information system required to achieve and initially sustain Full Operational Capability (FOC) and the operational and economic return on investment estimated in the AIS benefit analysis and Functional Economic Analysis (FEA). Costs are attributable to the AIS program from the time of program initiation through the complete fielding, implementation and testing required to meet FOC requirements. Phase out of the Status Quo AIS (if any) and Operating costs after FOC are excluded from this cost element. This phase includes cost elements from the beginning of the program through purchases of operational ADP systems, upgrades to the system in order to satisfy the approved requirements, and other initial items (e.g., initial training, spares, supplies, etc.). Also included are the elements to implement the ADP system, such as implementation and acceptance team testing, facility construction costs, and site activation, upgrades and disposal costs or reuse credits. It includes the direct investments of the program, as well as, those investments made by a central facility or Mega Center to support the AIS being estimated.

1.1 Program Management

The program management element is defined as the business and administrative planning, organizing, directing, coordination, controlling, and approval actions designated to accomplish overall program objectives which are not associated with specific hardware elements and are not included in systems engineering. Examples of these activities are: 1) Cost, schedule, performance measurement management, warranty administration, contract management, data management, vendor liaison, subcontract management, etc., and 2) Initial Logistics Support (ILS) element management defined as the logistics tasks management effort and technical control, and the business management of the elements of ILS. The logistics management function encompasses the Integrated Support Plan, ILS Management Team (ILSMT) participation, ILS evaluation and supportability assurance required to produce an affordable and supportable defense materiel system. This element includes the planning and management of all the functions of logistics and logistic support analysis, e.g., maintenance support planning; support facilities planning; other ILS requirements determination; support equipment; supply support; Packaging, Handling, Storage, and Transportation (PHST); provisioning requirements determination and planning; training system requirements determination; computer resource determination; organizational, intermediate, and depot maintenance determination; and data management.

1.2 Concept Exploration

The Concept Exploration element is defined as all costs associated with the study, analysis, design development, and test involved in investigating alternative methods of delivering prototype(s) or end item(s) to fulfill a requirement.

1.2.1 Engineering Analysis and Specifications

This cost element contains the technical and management efforts of directing and controlling a totally integrated engineering effort of a system or program. The element encompasses the systems engineering effort to define system alternatives and associated integrated planning and control of the technical program efforts of design engineering, specialty engineering, production engineering, and integrated test planning. This element includes but is not limited to : the systems engineering efforts to transform an operational need or statement of deficiency into a description of system requirements and a preferred system configuration; and the technical planning and control effort for planning, monitoring, measuring, evaluating, directing and re the management of the technical program. It specifically excludes the actual design engineering and the production engineering directly related to the CES element with which it is associated. For specific engineering efforts to include, consult ~~MIL-STD-881B~~ MIL-HDBK-881.

1.2.2 Concept Exploration Hardware

This cost element includes costs incurred to acquire, lease, or modify all hardware necessary to design, engineer and modify hardware components, including GFE, as required to support Concept Exploration. All costs associated with determining possible prototype alternative hardware configurations are captured in this element, but not the costs of acquiring such hardware (See CES 1.3.2.1).

1.2.3 Concept Exploration Software

This cost element includes all costs incurred to acquire or lease all software necessary to design, engineer and modify software for a system in direct support of determining possible system (prototype) alternative concepts, including GFE. Costs for software which are acquired or modified for the development effort, including prototype efforts, should be included in element 1.3.2.2.

1.2.3.1 COTS

This cost element includes any expense required to purchase, lease or otherwise acquire any commercial-off-the-shelf (COTS) software necessary for Concept Exploration.

1.2.3.2 Other Software

This cost element includes any expense required to purchase, lease or otherwise acquire any non-commercial software necessary for Concept Exploration.

1.2.3.3 Software Exploration

This cost element includes any ~~labor (deleted)~~ expense required to modify or further develop any software in the support of the exploration of software (prototype) alternatives concepts.

1.2.4 Concept Exploration Data

This cost element includes the cost to purchase, lease or develop data in support of the concept exploration of all system alternatives.

1.2.4.1 Data Acquisition

This cost element includes the cost to purchase, lease or otherwise acquire data required to support concept exploration.

1.2.4.2 Data Exploration

This cost element includes the ~~labor (deleted)~~ cost associated with ~~collecting (deleted)~~, analyzing, transitioning and distributing data required to support concept exploration.

1.2.5 Documentation

This cost element includes the cost of preparation, revision, and reproduction of drawings, test plans, testing procedures, manuals and other system documentation in support of the concept exploration.

1.2.5.1 Documentation Acquisition

This cost element includes the cost to purchase, lease or otherwise acquire documentation required to support concept exploration.

1.2.5.2 Documentation Exploration

This cost element includes the labor cost associated with collecting, analyzing, transitioning and distributing documentation required to support concept exploration.

1.2.6 Concept Exploration Testing

This cost element includes testing activities associated with the use specially fabricated hardware to obtain or validate engineering data on the performance of the system during the investment/development phase of the program. This element includes the detailed planning, conduct, support, data reduction and reports from such testing, and all hardware/software items which are consumed, or planned to be consumed, in the conduct of such testing. It also includes all costs associated with the design and production of models, specimens, fixtures, and instrumentation in support of the test program. Test articles which are complete units (i.e. functionally configured as required by specifications) are excluded from this element and should be included in CES 1.4. All formal and informal testing up through the subsystem level which can be associated with the hardware/software element are excluded. Acceptance testing is also excluded. These efforts are to be included with the appropriate hardware software elements.

1.2.6.1 Testing Acquisition

This cost element includes the cost to purchase, lease or otherwise acquire testing required to support concept exploration.

1.2.6.2 Testing Development

This cost element includes the labor cost associated with conducting, collecting data and analyzing tests required to support concept exploration.

1.2.7 Facilities

This cost element includes all costs incurred in the construction, modification and/or leasing of facilities required to support concept exploration for the automated information management system and/or testing the prototype.

1.2.8 Other (Logistical Support, Environmental, etc., as required)

This cost element includes any costs and support required to support concept exploration.

1.3 System Development

This cost element includes all resource expenditures required to develop and prototype the alternative.

1.3.1 System Design and Specification

This cost element reflects the activities of personnel involved in designing/improving the automation information system as well as any supplies consumed during the development.

1.3.1.1 Personnel

This cost element reflects labor costs required for the design, ~~development~~ (*deleted*) and improvement of the alternative system.

1.3.1.2 Other

This cost element includes any administrative design/improvement engineering support costs not covered in the categories above and may include such things as facilities, equipment and supplies.

1.3.1.3 Network Design

1.3.2 Development, Prototype and Test Site Investment

This cost element includes costs incurred to acquire, lease, or modify all hardware and software necessary to design, engineer, develop, test, and modify hardware components of the system in this phase, including GFE.

1.3.2.1 Development Hardware Investment

This cost element includes the lease, purchase or modification of NDI hardware to facilitate the development phase of the alternative.

1.3.2.2 Development Software Investment

This cost element includes the lease, purchase, or modification of COTS products required to facilitate the development effort.

1.3.2.3 ~~Prototype~~ Development Network Investment

This cost element uncludes the lease or purchase of network components to support system development.

1.3.3 Software Development

1.3.3.1 Commercial Off-the-Shelf (COTS) Modification

This cost element includes the cost of acquiring applications software, including all of the lease, purchase, and modification costs. It also includes all applications and utility software development, other than communications-specific software, that is required to integrate the COTS products into a total systems environment.

1.3.3.2 Application/Mission Software (Non COTS)

This cost element describes all costs required to develop deliverable line of application software. This might include the lease, purchase, or modification of products which assist in the planning, designing, testing, de-bugging, validating, and documenting the application software necessary to automate a specific function or operation and integrate that function into the overall AIS. When converting an AIS from an old system to a new system, software development costs should reflect the amount of code to be transferred without modification, transferred with minor modification, bridged, redesigned, and eliminated. For contractor developed software include all program management, G&A, and other contractor related costs.

1.3.3.3 Communications Software Development/Modification

This cost element contains all costs for software to establish the connectivity required by the specific system.

1.3.4 System Documentation

This cost element captures the costs associated with various system documentation requirements.

1.3.5 Data Development and Transition

This cost element captures the costs for all labor associated with a variety of data types and includes all cost to design the logical data model to support the applications; DBMS requirements analysis; file design; data standardization and configuration management; data transiting, conversion and migration; and data validation. Include all costs associated with the requirements for conforming with DoD data standards or participation in activity for the DoD data element dictionary development. CES 1.3.5.4 includes COTS DBMS license costs to support the application development.

1.3.6 Data Base Standards and Dictionary

This cost element captures the costs for all labor associated with the development of data base definition standards and a single data base dictionary to support multiple applications, functional disciplines and operational (service) units, that will be supported, in an integrated fashion, by the alternative AIS.

1.3.7 Training Development

This cost element aggregates the cost of training development/delivery personnel and the equipment and aids the personnel must use in their development/delivery efforts. Include all non-labor costs incurred in developing appropriate training services, devices, accessories, aids and equipment used to facilitate instruction through which personnel will acquire sufficient concepts, skills and aptitudes to operate and maintain the AIS and facilitate follow on and recurring training. (Training for the trainers)

1.3.8 Test and Evaluate

This cost element aggregates the costs for the various types of testing which occur in the development effort.

1.3.8.1 Development Test and Evaluation

This cost element describes the test and evaluation conducted to : (a) demonstrate that the engineering design and development process is complete; (b) demonstrates that the design risks have been minimized; (c) demonstrate that the system will meet specifications; (d) estimates the system's military utility when introduced; (e) determine whether the engineering design is supportable for operational use;

(f) provide test data with which to examine and evaluate trade-offs against specification requirements, life-cycle cost, and schedule; and (g) perform the logistics testing efforts to evaluate the achievement of supportability goals, the adequacy of the support package for the system, (e.g., deliverable maintenance tools, test equipment, technical publications, maintenance instructions, and personnel skills and training requirements, etc.). development test and evaluation includes all contractor and in-house effort and is planned, conducted and monitored by the developing agency of the DoD Component. ~~The Other category below is for costs representing~~ This category includes costs for supplies and hardware items consumed during the testing period.

1.3.8.2 Independent Verification and Validation

This cost element reflects those costs incurred for the independent testing of the alternative. The Other category is for supplies and hardware consumed during the testing period.

1.3.8.3 Operational Test and Evaluation

This cost element describes the test and evaluation conducted by agencies other than the developing command to assess the prospective systems military utility, operational effectiveness, operational suitability, logistics supportability, cost of ownership, and need for any modifications. Initial operation test and evaluation conducted during the development of an AIS will be included in this element. This element encompasses such tests as system demonstration, qualification operational test and evaluation, etc., and support thereto, required to prove the operational capability of the deliverable system. It includes contractor support consumed during this phase of the testing. It also includes performing the logistics testing efforts to evaluate the achievement of supportability goals and the adequacy of the support for the system. The other category is for costs of supplies and hardware items consumed during the test period.

1.3.9 Logistical Support Development

This cost element includes all costs incurred in completing the development of logistics plans (ILSP & LSMP) and services, through which logistical support will be available when necessary to support operation of the automated information system. Includes all labor and non-labor costs associated with developing logistical support for this phase of the program.

1.3.10 Facilities

This cost element includes all costs incurred in the construction and modification of facilities required to support development of the automated information management system and/or testing the prototype.

1.3.11 Environmental

This cost element includes all costs associated with environmental studies, protection and enhancements.

1.3.12 Other Development

This cost element includes all costs associated with development of the AIS which have not been captured in the above cost elements.

1.4 System Procurement

This cost element includes the costs for acquisition of all the elements (hardware, software, equipment, facilities and initial support) required to attain system FOC.

1.4.1 Deployment Hardware

This cost element includes all of the costs associated with deployment hardware. Hardware costs include vendor contracts, GFE, other Government contracts, and any organic effort used to acquire or

purchase program hardware. Include costs for first destination transportation, warranties, and user's manuals. Include the depreciated value for government owned equipment that will be utilized by the system regardless of when it was purchased and the reason for which it was purchased. Include the lease for the entire life cycle or until terminated or the equipment is purchased. Although compliance with the hardware categories listed below is preferred, it is not conducive for systems which are acquired by specific configuration, i.e., specific configuration by site size or site functionality. In this case the acquisition community normally procures the hardware by configuration and the specific hardware cost categories listed below are not available. If this is the case, develop the hardware estimate based on configurations, however, attempt to maintain as much detail as possible for specific hardware components. The cost to the government to provide out-source, central or mega center are excluded from this element and should be included in cost element 1.5, "Outsource/Central/Mega Center Investment".

1.4.1.1 Processing Units

This cost element aggregates the cost for various type of processing units and reflects the costs to lease, purchase or produce, or otherwise acquire system processing units regardless of source or funding.

1.4.1.2 Peripheral Devices

All costs associated with the production and/or purchase or lease of peripheral devices used by the system. Peripheral devices shared by other systems will be prorated.

1.4.1.3 Communications Hardware

This cost element includes all costs for the hardware to establish the connectivity required by the specific system. Communication devices shared by other systems will be prorated (similar to 1.4.1.2).

1.4.1.4 Other Hardware

This cost element includes all other hardware cost not previously detailed, such as satellite down links, radios, external power sources, dedicated trailers/vans, vehicles and mobile structures. Specify each hardware item in sub-elements of this cost element. Also, include any lease of hardware in lieu of investment.

1.4.1.5 Base/Shipboard Level Hardware

This cost element includes the cost of items within 1.4.1 associated at the base/deployable/shipboard level if budgetary/cost collection requirements dictate that they be separately priced.

1.4.1.6 Network Hardware

1.4.2 System Deployment Software

This cost element includes all the cost to acquire software required to support full system deployment. This is normally software which is available in the commercial market. In a multi-tiered environment (Macro, Mini, Micro) each tier should be shown separately.

Note: Application/Functional software development/procurement costs are included under cost element 1.3.3.2. The cost to develop or further modify non-developmental software is included under cost element 1.3.3.1.

1.4.2.1 Operating System Software

This cost element includes cost of the basic operating system software.

1.4.2.2 General Administrative (COTS) Software

This cost element includes cost for commercial application software, such as, spreadsheets, word processing, various statistical and mathematical packages, and general data base management packages needed to perform general tasks and improve the productivity of the users.

1.4.2.3 Tools Software

This element describes leases and/or purchases of CASE tools and compilers prescribed for the environment under which the application software will run.

1.4.2.4 Communication Software

This cost element includes all costs for the software to establish the connectivity required by the specific system.

1.4.2.5 Base/Shipboard Level Software

This cost element includes the cost of items within 1.4.2 associated at the base/deployable/shipboard level if budgetary/cost collection requirements dictate that they be separately priced.

1.4.2.6 Network Software

1.4.3 Initial Documentation Requirements

This cost element includes all costs incurred in preparation, revision, and reproduction of drawings, test plans, testing procedures, manuals, and other documentation for the operation of the system. Includes the cost of contracts, to collect, analyze, and distribute data required to procure, operate and support the developed system.

1.4.4 Logistics Support Equipment

This element includes those costs incurred for the equipment required in support of this program or portions of this program, while not directly engaged in the performance of its mission. Includes GFE which may, or may not, be peculiar to the program but which is not considered a part of the total system.

1.4.5 Initial Spares

This cost element includes components, assemblies, and subassemblies required for initial stockage and related wholesale pipeline in support of the information management system being implemented, from the first to the last end item implemented. This element should contain all the costs incurred in the supplying of reserve spares, and repair parts to stock the initial pipeline in both peacetime and wartime. These costs include transportation and storage of these supplies and spares.

1.4.6 Warranties

This cost element includes costs for warranties and special warranties on both hardware and software (identified separately) purchased for this system. If these warranties are included in the hardware and/or software purchase price, so state in those respective elements.

1.5 Outsource/Central/Mega Center Investment

This element includes all investment, or lease in lieu of investment, required by any outsource support provider as required for the system to attain and maintain FOC.

1.5.1 Capital Investment

1.5.1.1 Hardware

This cost element includes all of the costs associated with deployment hardware. Hardware costs include vendor contracts, GFE, other Government contracts, and any organic effort used to acquire or

purchase program hardware. Include costs for first destination transportation, warranties, and user's manuals. Include the depreciated value for government owned equipment that will be utilized by the system regardless of when it was purchased and the reason for which it was purchased. Equipment/Systems which are designed to support multiple users will be prorated and the costs will be factored out of the surcharge reflected in CES 2.3.3 and 3.3.4.

1.5.1.2 Software (COTS)

This cost element includes all the cost to acquire software required to support the alternative system deployment. This is normally software which is available in the commercial market.

1.5.1.3 Leasing

This cost element applies to leased hardware and COTS software under 1.5.1.

1.5.2 Central/Mega Center Software Development

This cost element describes all costs required to develop deliverable line of application software. This might include the lease, purchase, or modification of products which assist in the planning, designing, testing, de-bugging, validating, and documenting the application software necessary to automate a specific function or operation and integrate that function into the overall AIS. When converting an AIS from an old system to a new system or adding an AIS to the systems supported by the Center, software development costs should reflect the amount of code to be transferred without modification, transferred with minor modification, bridged, redesigned, and eliminated. For contractor developed software include all program management, G&A, and other contractor related costs.

1.5.3 System User Investment

This element includes costs incurred for system user to interface with governmental or commercial regional data centers. Costs in 1.4.1 support AIS operations that did not involve regional data centers, such as Defense MegaCenters or their commercial equivalents.

1.6 System Initiation, Implementation and Fielding

This cost element aggregates the costs incurred in initiating the system for use by the functional user. It includes all costs required to transition the system to users, including training, testing, purchasing supplies, etc. Include in "Other", the cost of supplies, etc.

1.6.1 Initial Training

This cost element includes all costs incurred in applying the appropriate training services, devices, accessories, aids, and equipment used to facilitate instruction through which the initial cadre of personnel will acquire sufficient concepts, skills, and aptitudes to operate and maintain the information management system.

1.6.2 System Integration Site Test/Acceptance

This cost element includes all costs for system related production test activities which are identifiable with the integration and evaluation of the system. Included is the cost of test equipment, hardware, and/or software to obtain or validate data. Also included is the cost of planning, execution, support, data reduction, and reports from such testing and test items consumed in the conduct of such operations, and any contract costs, as well as the cost of design and production of models, specimens, fixtures, and instrumentation in support of the test program. The element also includes the costs of system operational test activities to ensure proper system installation and operation and the cost of all efforts associated with the design and production of models, fixtures, and the instrumentation in support of the test program.

1.6.3 Common Support Equipment

This element refers to those items required to support and maintain the system or portions of the system while not directly engaged in the performance of its mission, and which are presently in the DoD inventory for support of other systems. This element includes all efforts required to assure the availability of this equipment for support of the particular defense materiel item. It also includes the acquisition of additional quantities of this equipment if caused by the introduction of the defense materiel item into operational service.

1.6.4 Site Activation and Facilities Preparation

This element contains all costs incurred in the site survey, preparation, construction and activation of a site for the acceptance and operation of the system. This element includes all costs of construction and modification of facilities which are required for the successful fielding of the system and meets the following test: The information system cannot be fielded without the construction and the need for these facilities will terminate if the system to be fielded is canceled.

1.6.5 Initial Supplies

This cost element includes all costs for initial stocking of consumable supplies of the operation of the information management system, i.e. computer paper, disks, tapes, forms, ribbons, etc.

1.6.6 Engineering Changes

This cost element includes costs incurred in making engineering changes to the system hardware/software throughout the system life. Does not include hardware/software upgrades.

1.6.7 Initial Logistics Support

Includes the cost elements identified in 2.0 from IOC at each site until FOC at all sites. At FOC at all sites, the costs reflected in these cost elements will be shown under CES 2.0. These elements do not apply to the Status Quo alternative.

1.6.7.1 Annual Operations Investment

See CES 2.2

1.6.7.2 Hardware Maintenance

See CES 2.3

1.6.7.3 Software Maintenance

See CES 2.4

1.6.7.4 Mega Center Ops & Maintenance Support

See CES 2.5

1.6.7.5 Data Management

See CES 2.6

1.6.7.6 Unit Site Operations

See CES 2.7

1.6.7.7 Network Maintenance

1.6.8 Office Furniture and General Support Furniture

Includes costs for office and general support furniture required to support the AIS if it is intended for the sole use of the AIS. Office furniture to support management functions is included in CES 1.1.4.

1.6.9 Data Upload & Transition

Includes site/function specific initial loading and checkout of data for the system if accomplished separately from software installation and test. Also include any expense associated with the transition of data from the current system.

1.6.10 Base/Installation Communications

Includes all costs, not already included in cost element 1.6.4, associated with installation communications required for the AIS to meet its operational requirements. Note: Reference cost element 1.4.1.3, do not double count costs.

1.7 Upgrade/Preplanned Product Improvement

This cost element includes the cost of enhancements to the alternative throughout the life cycle. Normally, equipment wear and technological obsolescence results in turnover of equipment every five to ten years. In many cases when hardware changes are made, software is also upgraded to take maximum advantage of the increased hardware capability.

1.7.1 Upgrade Development

This cost element includes the development of all pre-planned product improvement costs throughout the alternative system life for hardware and software. It includes software development to accommodate the changing technology in hardware. This is in addition to the annual software maintenance costs reflected in CES 2.4.

1.7.1.1 Hardware

This cost element includes the development of hardware in support of pre-planned product improvements.

1.7.1.2 Software

This cost element includes the development of software in support of pre-planned product improvements. Software development caused by changing hardware and communications technology is included here also.

1.7.1.3 Communications Network

This cost element includes the development of communications upgrades in support of pre-planned product improvements.

1.7.2 Life Cycle Upgrades Procurement

This cost element includes all product improvement upgrade costs throughout the system life cycle. Specifics of hardware and software upgrades should be well documented.

1.7.2.1 Hardware Upgrades

This cost element includes the cost to acquire hardware required to accommodate pre-planned product improvements. Specific upgrades should be well documented.

1.7.2.2 Software Upgrades

This cost element includes all the cost to acquire software required to accommodate the hardware upgrade. This is normally software which is available in the commercial market.

1.7.2.3 Other

1.7.3 Central Mega Center Upgrades

This cost element includes those expenditures identified in 1.7.1 and 1.7.2 when they are incurred by the MegaCenters in support of the system.

1.8 Disposal / Reuse

1.8.1 Capital Recoupment

This cost element captures the value of any assets turned in to a repository for redistribution or any assets which may have recyclable value.

1.8.2 Retirement

This cost element captures the cost of the effort required to dispose of equipment and may include charges for destroying the equipment.

1.8.3 Environmental/Hazardous Disposal

This cost element captures the cost of the effort required to dispose of environmental hazardous equipment and may include charges for destroying the equipment

2.0 SYSTEM OPERATIONS AND SUPPORT

This major element includes all costs to sustain the AIS alternative after FOC at all sites. It includes the cost to manage and maintain the hardware and software, whether centrally or at each unit, to sustain operations throughout the life cycle, and to provide the basis for the benefits identified in the FEA. This major cost element will be used to show all costs associated with the operations of the Status Quo alternative. When providing the cost estimate for the Status Quo alternative, this element will be used to identify the costs from program inception through FOC plus ten years.

2.1 System/Material/Item Management

This cost element covers the resource requirements for system management. Management includes the costs incurred in the process of acquiring, employing, and retraining needed personnel. I.E. fully burdened salaries, benefits, relocation expenses, retirement actuarial, required TDY, and all costs associated with the personnel of the deployed AIS. It also includes the services, studies and support resources needed to manage the program after deployment.

2.1.1 Personnel

This cost element contains all labor cost associated with O&S costs for configuration, material, and systems management associated with the distribution, warehousing, cataloging, technical support, personnel, and facilities for system specific activities. It includes the program management function after FOC, and the centralized control, management, and design of the AIS throughout its life cycle. It also includes the centralized system administrators and system operators. The personnel necessary to operate the AIS system at each unit location are included in cost element 2.7.1.

2.1.2 TDY

This cost element includes the travel costs of persons in the system/material /item management function as they conduct program related trips.

2.1.3 Other Government Support

This cost element covers any indirect government support costs related to system/material/item management not covered in the categories above.

2.1.4 Other

This cost element covers any system/material/item management costs not covered in the categories above and may include such things as facilities, leasing, studies, contract management support, supplies, etc.

2.2 Annual Operations Investment

This element contains all costs associated with the acquisition and first destination transportation of replacement components, replenishment spares, supplies and consumables required over the life cycle of the specific system. Included are costs incurred in the acquisition of replacement parts, supplies and consumables to re-supply the initial pipeline. The replacement of major system components that cost in excess of \$(refer to DoD Reg 5000.2-R) each must be included under cost element 1.0, "Investment".

2.2.1 Annual Systems Maintenance Investment

2.2.2 Replenishment Spares

2.2.3 Replenishment Supplies and Consumables

2.3 Hardware Maintenance

This cost element includes cost incurred in providing maintenance and repair for the system hardware regardless of who has "ownership" of the equipment or responsibility for repair. These costs include, but are not limited to: overhaul expenses, programmed maintenance expense (periodic inspection of war reserve material), component repair, minor facilities modifications and upkeep, support equipment repair (test equipment, trucks, generators, etc.), lab calibration, depot support data, second destination transportation, and administrative support required for maintenance operations. All equipment's covered in CES 1.4.1 and 1.5.1 should be included. Note: When maintenance support is not accomplished by a local facility, organic or contract, such as overseas, remote locations, mobile operations, and due to contract considerations, cost for additional components and spares that must be provided at the deployed locations are included in CES 1.4.5.

2.3.1 Organic Hardware Maintenance

This cost element captures the fully burdened labor costs associated with government hardware maintenance for the fielded system.

2.3.2 Contract Maintenance Support

This cost element aggregates all costs for maintenance performed by contract or covered by an Interservice Support Agreement (ISSA). When a single contract is used to cover a combination of devices, the G&A, fee, contract administration costs, etc. will be listed in this CE with the actual maintenance costs listed in the following CEs (when separately priced).

2.3.2.1 Processing Units

This cost element covers the maintenance for CES 1.4.1.1. Provide details in the documentation.

2.3.2.2 Peripheral Devices

This cost element covers the maintenance for CES 1.4.1.2. Provide details in the documentation.

2.3.2.3 Communications Hardware

This cost element covers the maintenance for CES 1.4.1.3. Provide details in the documentation.

2.3.2.4 Other Hardware

This cost element describes all other contractor hardware maintenance costs which have not been captured in the hardware maintenance categories above. List each sub-element under this cost element and describe fully.

2.3.2.5 Base/Shipboard Level Hardware

This cost element includes the cost of items within 2.3.2 that are associated with the base/deployable/shipboard level if budgetary/cost collection requirements dictate that they be separately priced.

2.3.3 Other

This cost element includes all hardware maintenance costs which are incurred by a centralized support facility.

2.3.3.1 Outsource /Mega Center Support

2.3.3.2 Other Government Agency Support

2.4 Software Maintenance

This element includes all costs for software maintenance for the new system. When identifying software and data maintenance costs in these categories include vendor contracts, GFE, other Government contracts, facilities upkeep, and ISSAs. It does not include system management activities such as system redesign or programmers/operators which are covered under CES 2.1. All software maintenance costs including related local contract services for research and studies that contribute to software and data maintenance planning, and development must be included.

2.4.1 Commercial-off -the Shelf (COTS)

This cost element aggregates the software maintenance costs for the four different software types listed below.

2.4.1.1 Operating System Software

This cost element reflects licensing and update costs of the operating system software. See CES 1.4.2.1.

2.4.1.2 General Administrative Software

This cost element reflects maintenance of software identified in CES 1.4.2.2 and that software which was transferred from the old system to the new system without development.

2.4.1.3 Tools

This cost element reflects maintenance of software identified in CES 1.4.2.3.

2.4.1.4 Communications Software

This cost element reflects maintenance of software identified in CES 1.4.2.4.

2.4.1.5 Base/Shipboard Level Software

2.4.2 Application/Mission Software (Non-COTS)

This cost element describes the maintenance of software identified in CES 1.3.3.2.

2.4.3 Communications Software (Non-COTS)

This cost element describes the maintenance of the Communications Software developed in CES 1.3.3.3.

2.4.4 Data Center Software

This cost element describes the maintenance of the Data Center Software developed in CES 1.5.2.

2.4.5 Other Software Maintenance

This cost element includes all other software maintenance costs not captured in the categories above. List each sub-element and fully describe.

2.5 Mega-centers Operating Support

This cost element contains the costs associated with services received by the AIS from a Mega-center in support of the Systems operations. When investment and operating support costs are included in an annual surcharge or fee, this fee will be separated into the various components which generated that fee and added to the appropriate elements of this CES.

2.6 Data Maintenance

This cost element reflects the maintenance costs to keep the new system data current. It includes labor expense to accomplish data maintenance as well as specific supplies consumed during the maintenance of the data in the two categories listed below.

2.6.1 Mission Application Data

This cost element reflects the maintenance cost for mission specific data developed in CES 1.3.5.

2.6.2 Standard Administrative Data

This cost element reflects the maintenance cost for standard administrative data developed in CES 1.3.5.

2.7 Unit/Site Operations

This cost element includes personnel costs, as well as, fuel and power requirements, training, communications, facilities maintenance, etc.

2.7.1 System Operation Personnel

This element includes the decentralized system administrators and system operators. It includes the personnel necessary to operate the hardware/software. It does not include functional personnel which interface with the system.

2.7.2 Utility Requirements

This cost element includes the costs of commercial utilities (power, water, etc.) required for the operation and cooling of the system hardware including all peripheral devices.

2.7.3 Fuel and POL

This element includes the costs for fuel, oil, and lubricants to operate the system and support equipment. Examples are fuels for generators and vehicles and coolants for environmental central systems.

2.7.4 Facilities Lease and Maintenance

This element contains all costs associated with facilities operations which can be directly attributed to the system being fielded or in support of its personnel. These costs include, but are not limited to:

facilities, power requirements, special material and supplies, leased or owned facilities and construction, operations, maintenance of facilities.

2.7.5 Communications

This cost element aggregates the cost of leasing and maintenance for the system communication costs.

2.7.5.1 Long Haul/WAN

This cost element includes costs for all required communications from the local (base) level through the DoD level, such as leased long lines, long distance networks for data and voice, and other costs to interconnect components of the AIS and interface with other systems (including input and output).

2.7.5.2 Intra-Base/LAN

The cost of leasing or maintenance of local area networks and intra base communications. When communications are shared, costs will be prorated, and the proration methodology will be reflected in the documentation.

2.7.6 Base Operating Support

The allocated cost of providing personnel support to the system's dedicated personnel. This includes medical, personnel, MWR, financial and subsistence support to people. It is normally based on the population of system personnel being supported.

2.7.7 Recurring Training

This element contains all costs associated with training services, devices, accessories, aids, equipment, facilities, and parts used to facilitate instruction through which personnel will acquire sufficient concepts, skill, and aptitudes to operate and maintain the information management system. This element includes the effort associated with the maintenance of training equipment, as well as the execution of training services. It includes the basic, burdened wage of the trainers, but not the wage of the trainees covered in CES 2.7.1. It also includes TDY of Government personnel for training, and the cost of any contracts to train personnel.

2.7.8 Miscellaneous Support

This cost element describes all other resources necessary to support the AIS in the local areas. Accumulate the costs in the appropriate categories below. Include second destination transportation in the other category.

2.8 Environmental and Hazardous Material Storage and Handling

This cost element includes all support and maintenance costs associated with environmental studies, protection, and enhancements, including costs associated with the handling and storage of environmental and hazardous materials associated with the specific AIS.

2.9 Contract Leasing

This cost element includes all costs associated with leasing, maintenance and support of hardware ADP equipment for the life cycle of the system when not covered under Cell 1.4. Use the same sub-elements as contained in Cell 1.4 in supplemental documentation. All outsource leasing or lease in lieu of investment are covered under cost element 1.0, "Investment".

3.0 ALTERNATIVE PHASE OUT (STATUS QUO) PROFILE

This cost element includes the costs incurred in managing, supporting and maintaining the day-to-day operations of the status quo system as it runs parallel to the phasing in of the new system. Personnel costs are reflected, as well as any projected hardware replacements and all maintenance for hardware and software. It begins prior to IOC and continues until after FOC of the last unit. When providing an estimate of the Status Quo alternative this major element will not be used except for Sunk Costs.

3.1 System Management

This cost element includes the costs of managing the status quo system.

3.2 Phase Out Investment

This cost element reflects the costs of replacing any hardware which is inoperable and is not capable of supporting the mission in the status quo system only as it transitions to the new system. Document the specific hardware replacements.

3.2.1 Deployment Hardware

This cost element describes all of the elements associated with replacement hardware. When identifying hardware costs, look into your program's vendor contracts, GFE, other Government contracts, and any organic effort used to procure the Status Quo hardware. Includes costs for first destination transportation, warranties, and user's manuals, if applicable

3.2.1.1 Processing Units

This cost element aggregates the cost for various type of processing units and reflects the costs to lease, purchase or produce, consistent with the definition in 1.4.1.1.

3.2.1.2 Peripheral Devices

This cost element includes all costs for printers, storage devices, and other peripheral devices.

3.2.1.3 Communications Hardware

This cost element includes all costs for the hardware to establish the connectivity required by the specific system. This includes LAN/WAN communications devices, modems, crypto devices, circuitry, etc.

3.2.1.4 Other Hardware

This cost element includes all other hardware cost not detailed, such as vehicles and mobile structures. Specify each hardware item in sub-elements of this cost element.

3.2.2 Software (non-developmental)

This cost element includes all software which is available in the commercial market and which requires little or no modification to utilize. In a multi-tiered environment (Macro, Mini, Micro) each tier should be shown separately.

3.2.2.1 Operating System Software

This cost element includes cost of the basic operating system software if replacement is needed prior to the phase out of the Status Quo.

3.2.2.2 Application (Mission) Software

This cost element includes cost of the application software if replacement is needed prior to the phase out of the Status Quo.

3.2.2.3 Interface Software

This cost element includes cost of the software needed to maintain inter-connectivity with the users if replacement is needed prior to phase out of the Status Quo.

3.2.2.4 Communication Software

This cost element includes all costs for the software to establish the connectivity required by the specific system.

3.2.3 Environmental & Hazardous Material Storage & Handling

This cost element includes all costs associated with environmental studies, protection, and enhancements, including costs associated with the handling and storage of environmental and hazardous materials of the Status Quo.

3.3 Status Quo Phase Out Operations & Support

3.3.1 Hardware Maintenance

This cost element includes cost incurred in providing maintenance and repair for the system hardware for the status quo regardless of who has "ownership" of the equipment or responsibility for repair. These costs include, but are not limited to: overhaul expenses, programmed maintenance expense (periodic inspection of war reserve material), component repair, minor facilities modifications and upkeep, support equipment repair (test equipment, trucks, generators, etc.), lab calibration, depot support data, second destination transportation, and administrative support required for maintenance operations

3.3.2 Software Maintenance

This cost element reflects the costs incurred in providing maintenance and repair for the system software for the status quo only, regardless of who has ownership of the software or responsibility for repair. When identifying software and data maintenance costs in these categories include vendor contracts, GFE, other Government contracts, facilities upkeep, and ISSAs. All software maintenance costs including related local contract services for research and studies that contribute to software and data maintenance planning, development and maintenance must be included.

3.3.3 Unit/Site Operations

This cost element includes all costs associated with support facilitates operations which can be directly attributed to the status quo system during phase out, or in support of its personnel.. These costs include but are not limited to: power requirements, special material and supplies, facilities and construction, operations, maintenance of facilities, administrative personnel, medical, contract service/support, equipment leasing, retraining, base operations data, base communications, base transportation, installation support and miscellaneous support functions.

3.3.3.1 System Operation Personnel

This cost element describes the fully burdened labor costs for status quo system operators.

3.3.3.2 Utility Requirements

This cost element describes the costs of commercial utilities required for the operation and cooling of the status quo system hardware, including all peripheral devices. If the new system is partially fielded, an apportionment of power requirements can be accomplished for each system. Provide apportionment rationale in the documentation.

3.3.3.3 Fuel and POL

This element includes the costs for fuel, oil, and lubricants to operate the system and support equipment. Examples are fuels for generators and vehicles and coolants for environmental systems.

3.3.3.4 Facilities Maintenance

This element contains all costs of real property upkeep or rental fee paid for occupancy of facilities for the status quo system. It does not include facilities occupied by users in a distributed system unless the space is dedicated to the system operations. Included are minor construction and maintenance of real property and upgrade of facilities necessary to sustain the system during the phase out period.

3.3.3.5 Communications

This cost element aggregates the cost of leasing and maintenance for status quo communication costs.

3.3.3.6 Base Operating Support

This cost element reflects the cost of providing personnel support to the status quo's dedicated personnel. This includes medical, personnel, MWR, financial and subsistence support to people. It is normally based on the population of system personnel being supported.

3.3.3.7 Annual Operations Investment

This element contains all costs associated with the acquisition and first destination transportation of replacement components, replenishment spares, supplies and consumables required to support the Status Quo prior to its phase out. Included are costs incurred in the acquisition of replacement parts, supplies and consumables to re-supply the initial pipeline.

3.3.3.8 Recurring Training

This cost element contains all costs associated with training services, devices, accessories, aids, equipment, facilities, and parts used to facilitate instruction through which personnel will sustain sufficient concepts, skill, and aptitudes to operate and maintain the information management system. This element includes the effort associated with the maintenance of training equipment, as well as the execution of training services. It also includes TDY of Government personnel for training, and the cost of any contracts to train personnel.

3.3.3.9 Miscellaneous Support

This cost element describes all other resources necessary to support the status quo system in the local areas, including second destination transportation.

3.3.4 Mega-centers Operating Support

This cost element contains all costs associated with services received by the Status Quo AIS from a Mega-center in support of the systems operations in the Status Quo.

3.3.5 Phase Out Contracts

This cost element includes all costs associated with leasing hardware ADP equipment and contract termination for the status quo.

3.3.5.1 Leasing

3.3.5.2 Termination